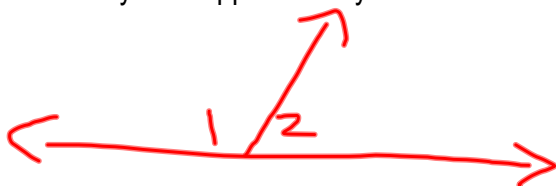


2-8 Continued

Ch 2.5-2.8 Test 11/4

Theorem 2.3-The Supplement Theorem-If 2 angles form a linear pair, then they are supplementary.



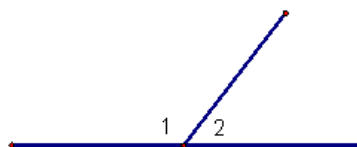
Theorem 2.4-The Complement Theorem-If the non-common rays of two adjacent angles form a right angle, then they are complementary.



Oct 16-9:16 AM

How they are used:

Given: picture

1. $\angle 1$ and $\angle 2$ form a linear pair.

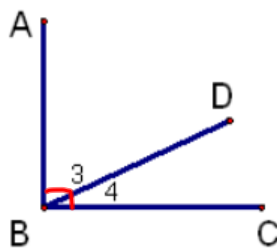
1. Def. Of Linear Pair

2. $\angle 1$ and $\angle 2$ are supplementary.

2. The Supplement Thm.

Oct 16-10:55 AM

Given: $\overline{AB} \perp \overline{BC}$



1. $\angle ABC$ is a right angle

1. Def of \perp

2. $\angle 3$ and $\angle 4$ are complementary

2. The Complement Thm.

Oct 16-10:56 AM

Theorem 2.6-Angles supplementary to same

\angle or \angle s are \cong

Short-- Supplements of $\cong \angle$ s are \cong



Theorem 2.7-Angles complementary to same

\angle or \angle s are \cong

Short-- Complements of $\cong \angle$ s are \cong

Oct 16-11:01 AM

Prove Theorem 2.7

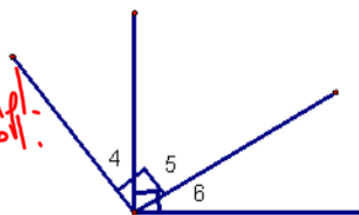
Given:

 $\angle 4 + \angle 5$ are compl.

Prove:

 $\angle 5 + \angle 6$ are compl.

$$\angle 4 \cong \angle 6$$

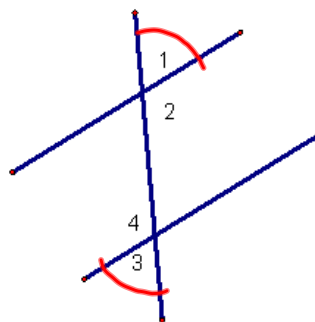
StatementsReasons

- | | | |
|---|--|-------------------|
| ① | | ① Given |
| ② | $m\angle 4 + m\angle 5 = 90$
$m\angle 5 + m\angle 6 = 90$ | ② Def of compl. |
| ③ | $m\angle 4 + m\angle 5 = m\angle 5 + m\angle 6$ | ③ Subst. |
| ④ | $m\angle 5 = m\angle 5$ | ④ Reflexive |
| ⑤ | $m\angle 4 = m\angle 6$ | ⑤ Subtr. |
| ⑥ | $\angle 4 \cong \angle 6$ | ⑥ Def. of \cong |

Oct 16-11:03 AM



How they are used:

Given: $\angle 1 \cong \angle 3$ Prove: $\angle 2 \cong \angle 4$ 1. $\angle 1 \cong \angle 3$

1. Given

2. $\angle 1$ and $\angle 2$ form a linear pair.
 $\angle 3$ and $\angle 4$ form a linear pair

2. Def. Of Linear Pair

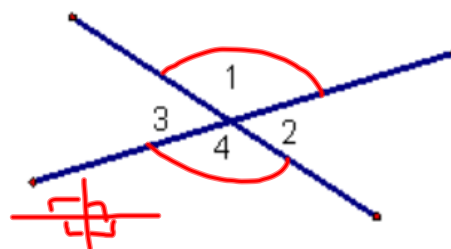
3. $\angle 1$ and $\angle 2$ are supplementary.
 $\angle 3$ and $\angle 4$ are supplementary

3. The Supplement Thm.

4. $\angle 2 \cong \angle 4$ 4. Supplements of $\cong \angle$ s are \cong

Oct 16-11:05 AM

Theorem 2.8-Vertical Angles are congruent



Theorem 2.9-- \perp lines form 4 right angles

Theorem 2.10-All right \angle s are \cong

Theorem 2.11-- \perp lines form congruent, adjacent angles

Theorem 2.12-If 2 \angle s are \cong and supplementary, then each is a right angle

Theorem 2.13-If 2 $\cong \angle$ s form a linear pair, then each is a right angle.

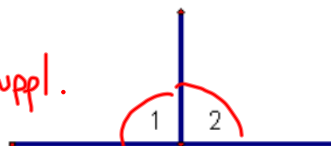
Oct 16-11:04 AM

Prove Theorem 2.12

Given: $\angle 1 \cong \angle 2$
 $\angle 1$ & $\angle 2$ are suppl.

Prove:

$\angle 1$ is a rt. \angle
 $\angle 2$ is a rt. \angle



Statements	Reasons
① $\angle 1 \cong \angle 2$	① Given
② $m\angle 1 + m\angle 2 = 180$	② def. of suppl.
③ $m\angle 1 + m\angle 1 = 180$	③ Subst.
④ $2m\angle 1 = 180$	④ Subst.
⑤ $m\angle 1 = 90$	⑤ Div.
⑥ $m\angle 2 = 90$	⑥ Subst.
⑦ $\angle 1$ is a rt. \angle $\angle 2$ is a rt. \angle	⑦ def of rt. \angle

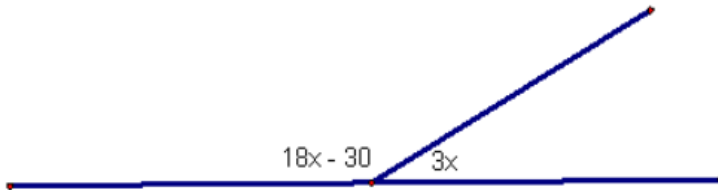
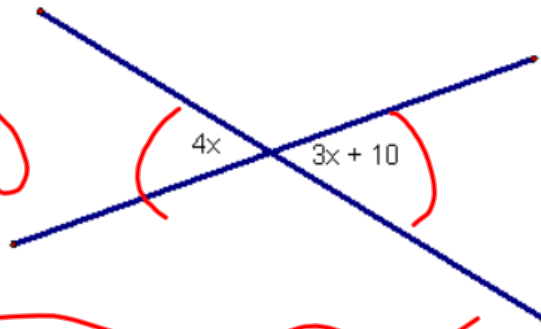
Oct 16-11:08 AM

Solve for x.

$$4x = 3x + 10$$

$$x = 10$$

$$18x - 30 + 3x = 180$$



Oct 16-11:10 AM

Homework

p.112-113

#s 16-24, 27-32, 38

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